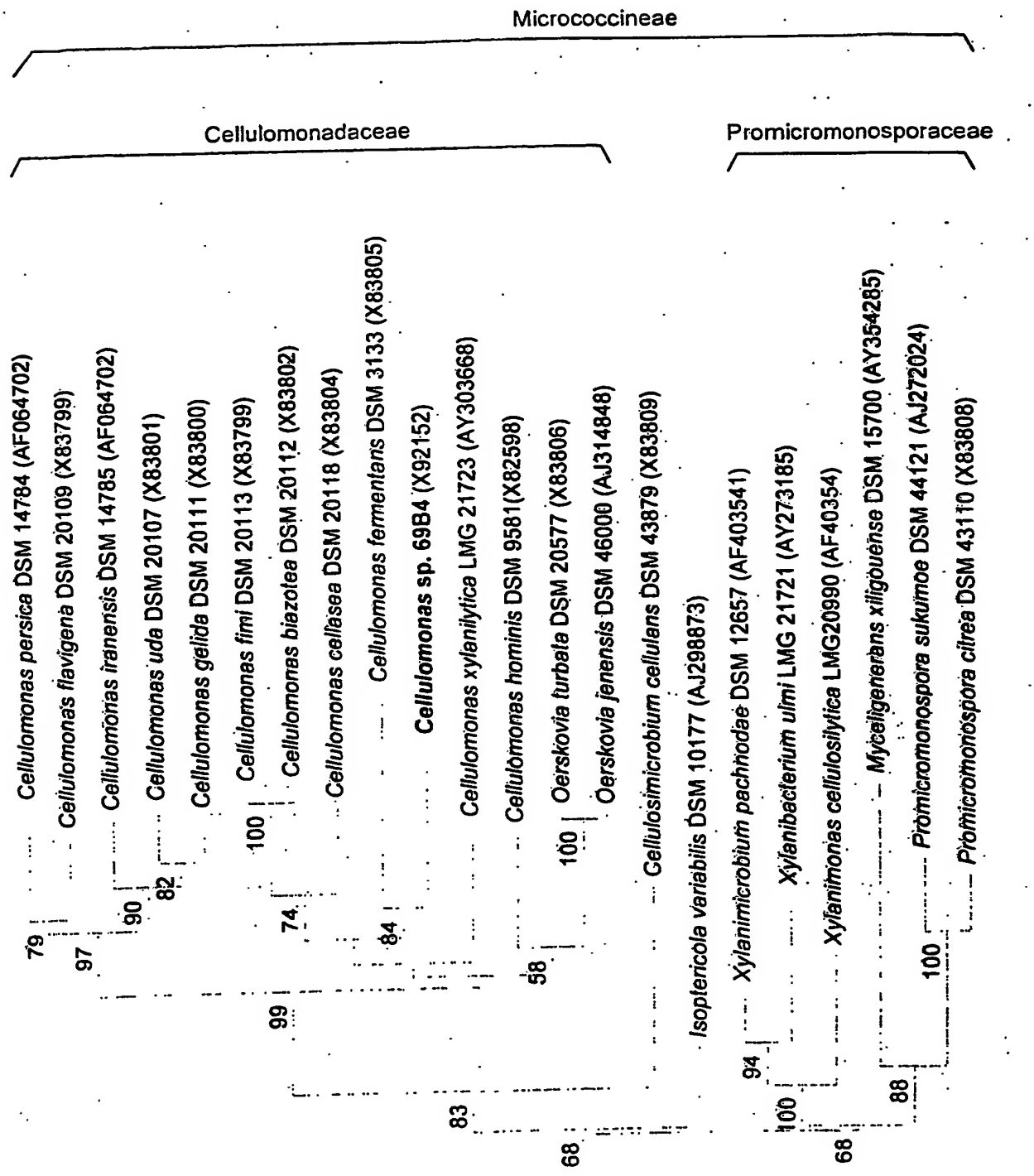

Figure 1

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FIGURE 2

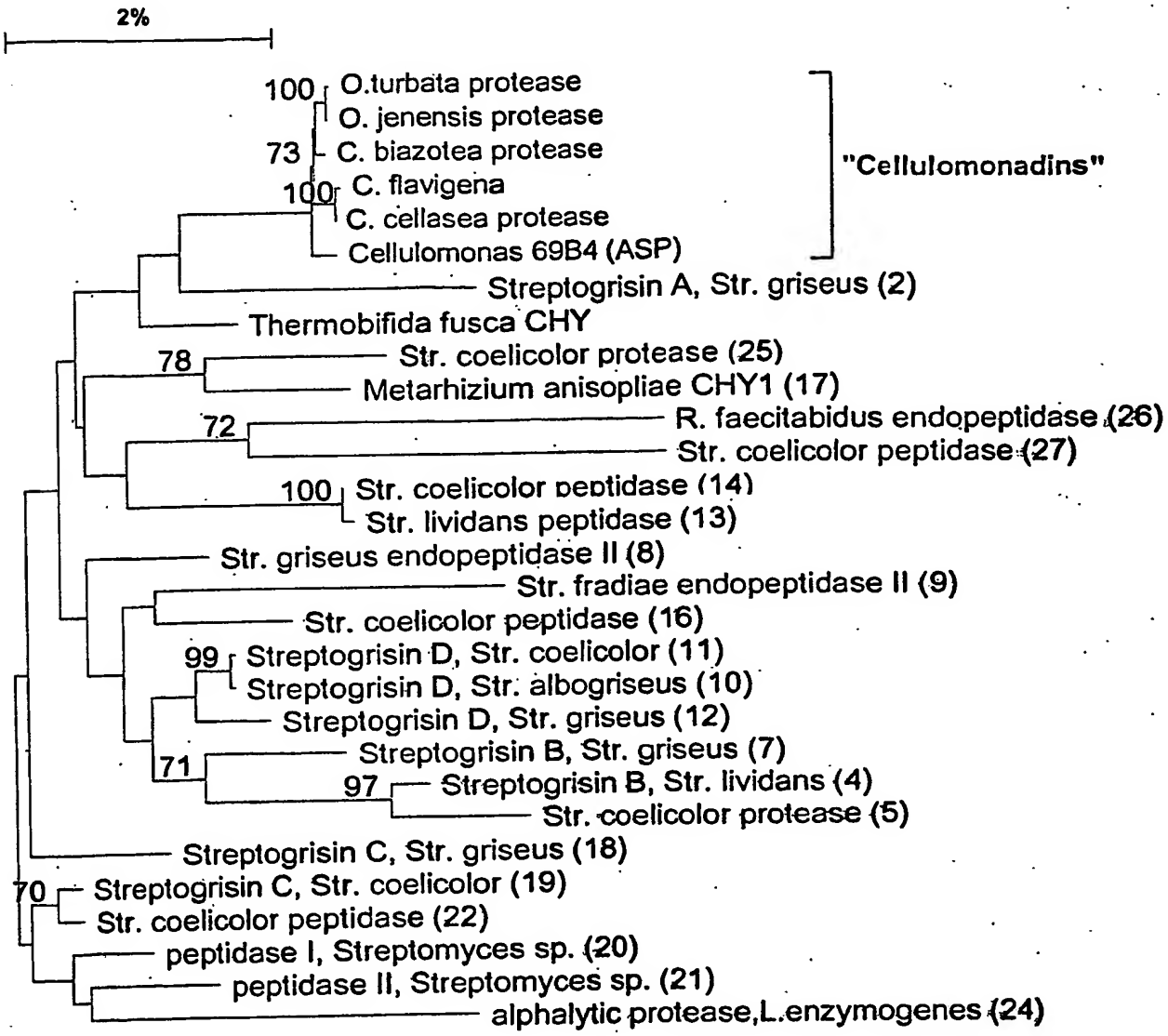
2%
100
O.turbata protease
O. jenensis protease
73
C. biazotea protease
100
C. flavigena
C. cellasea protease
Cellulomonas 69B4 (ASP)
"Cellulomonadins"
Streptogrisin A, Str. griseus (2)
Thermobifida fusca CHY
78
Str. coelicolor protease (25)
Metarhizium anisopliae CHY1 (17)
72
R. faecitabidus endopeptidase (26)
Str. coelicolor peptidase (27)
100
Str. coelicolor peptidase (14)
Str. lividans peptidase (13)
Str. griseus endopeptidase II (8)
Str. fradiae endopeptidase II (9)
Str. coelicolor peptidase (16)
99
Streptogrisin D, Str. coelicolor (11)
Streptogrisin D, Str. albogriseus (10)
Streptogrisin D, Str. griseus (12)
Streptogrisin B, Str. griseus (7)
71
97
Streptogrisin B, Str. lividans (4)
Str. coelicolor protease (5)
Streptogrisin C, Str. griseus (18)
70
Streptogrisin C, Str. coelicolor (19)
Str. coelicolor peptidase (22)
peptidase I, Streptomyces sp. (20)
peptidase II, Streptomyces sp. (21)
alphalytic protease,L.enzymogenes (24)

FIGURE 3

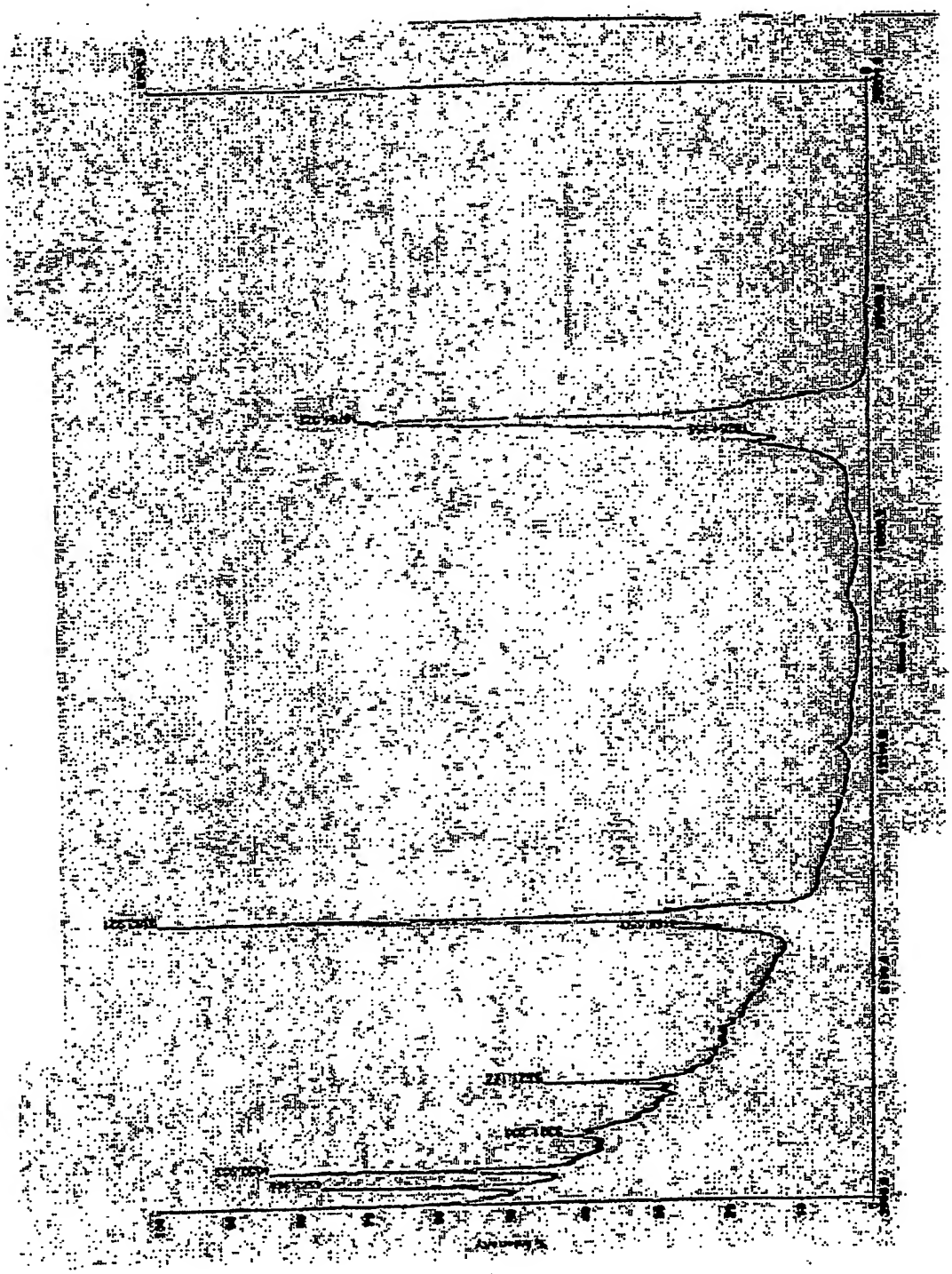

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FIGURE 4

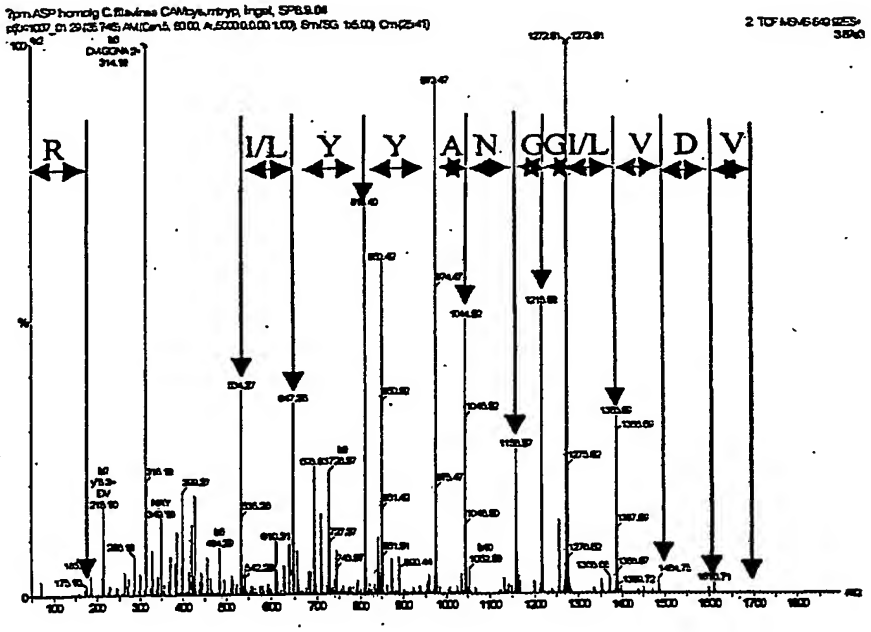
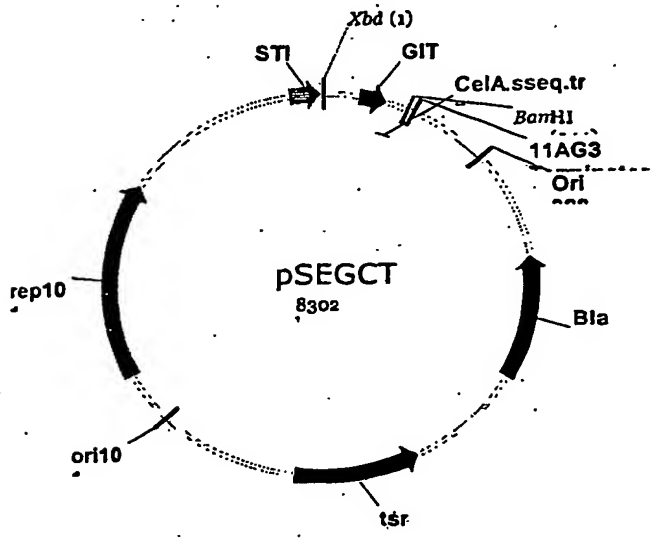


FIGURE 5


Xbd (1)
STI
GIT
CelA.sseq.tr
BamHI
11AG3
Ori
pSEGCT
8302
rep10
Bla
ori10
tsr

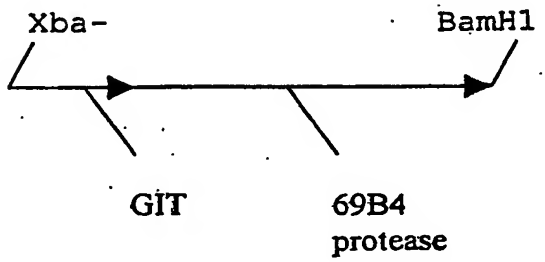

Xba-
BamH1
GIT
69B4
protease

FIGURE 6

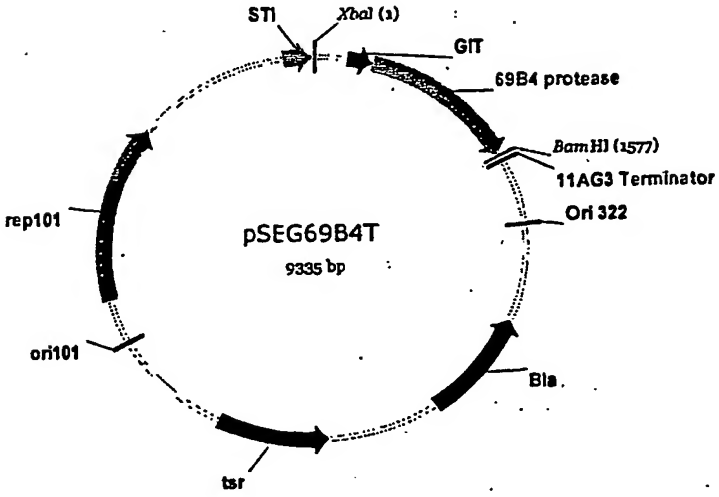


FIGURE 7

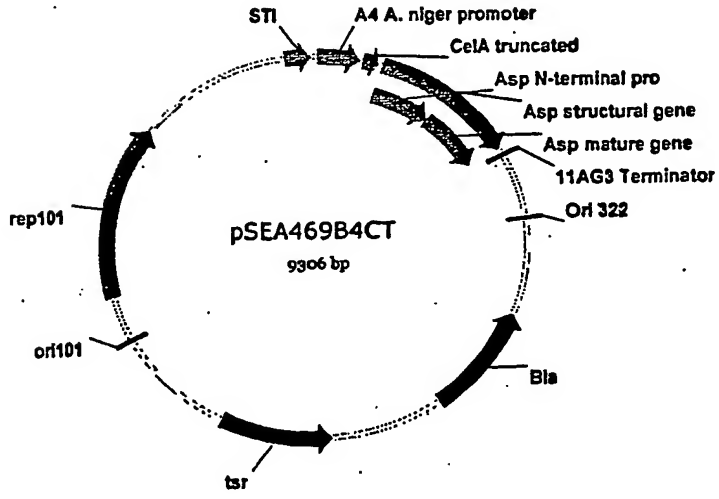


FIGURE 8

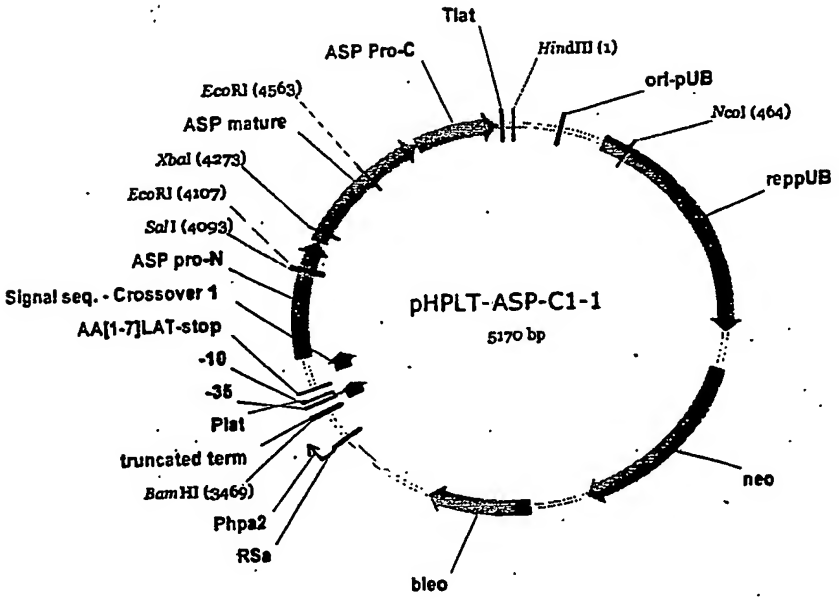


FIGURE 9

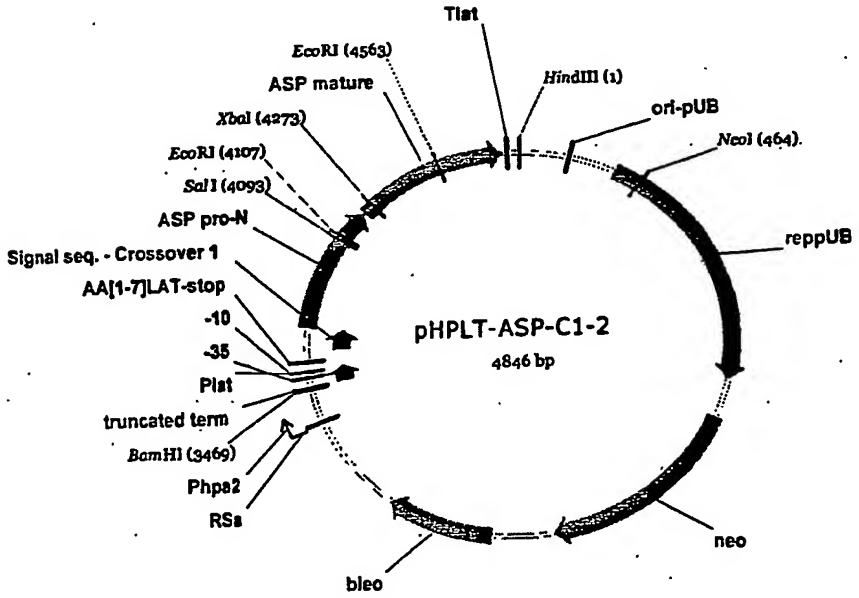


FIGURE 10

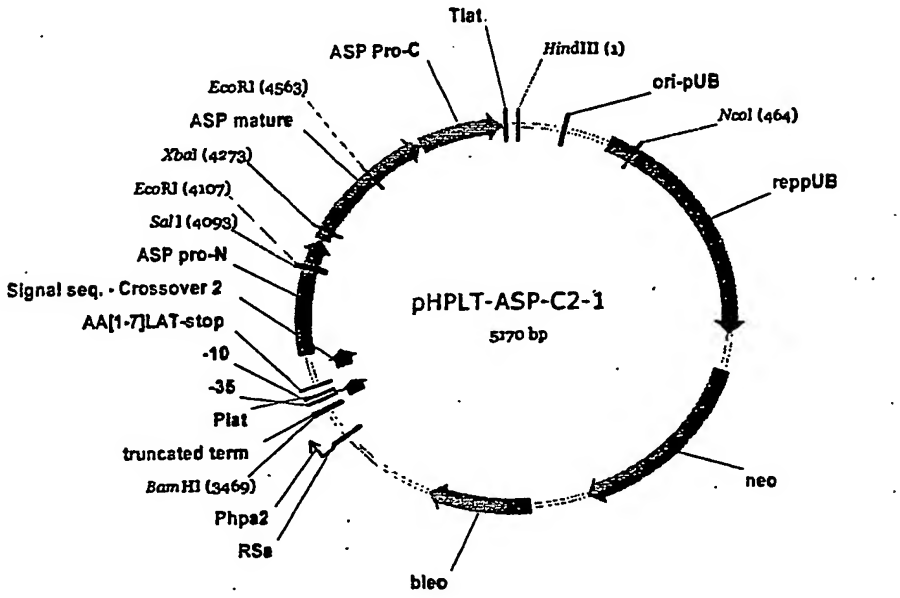


FIGURE 11

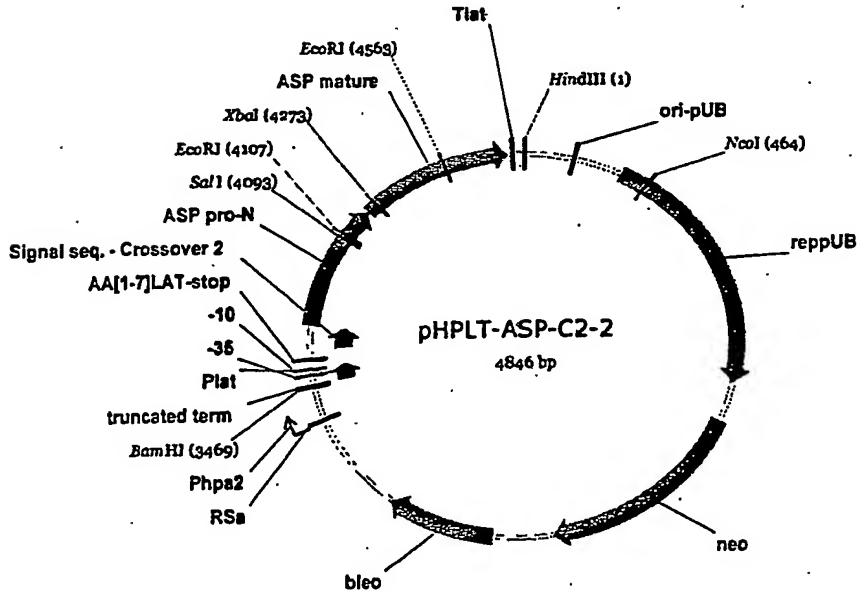


FIGURE 12

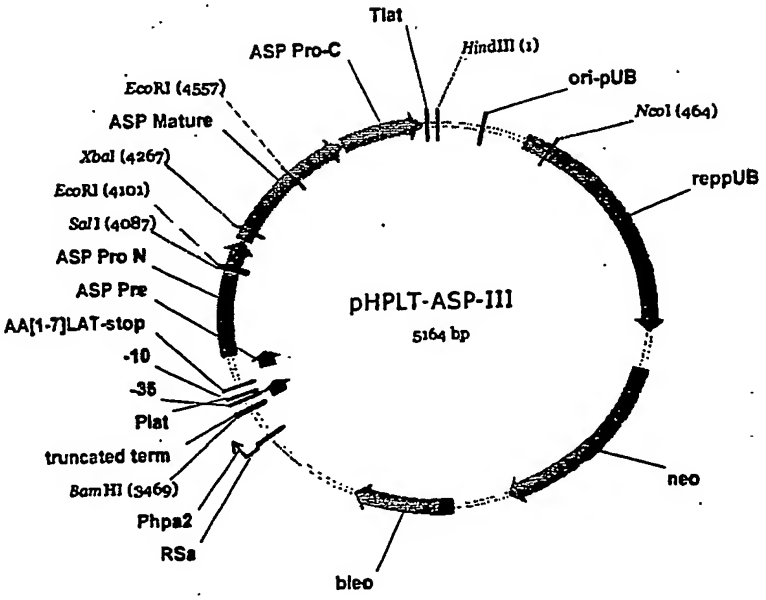


FIGURE 13

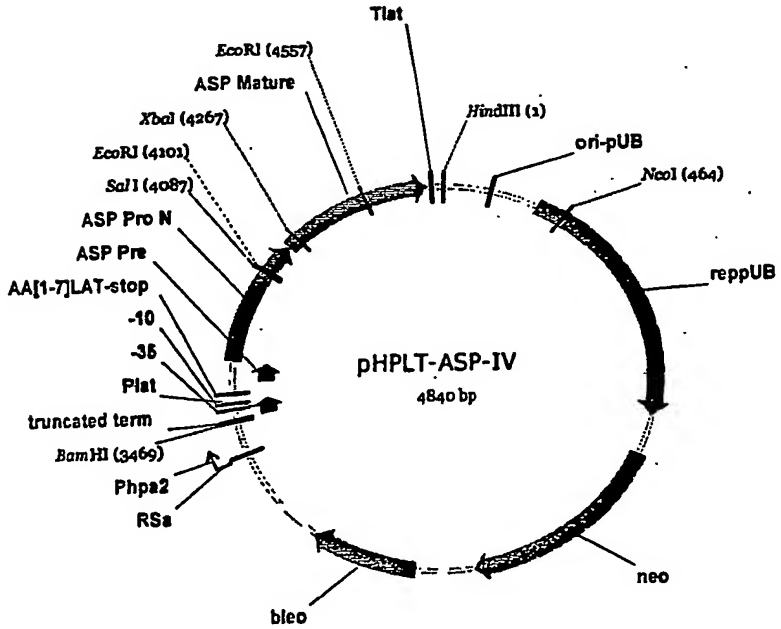


FIGURE 14

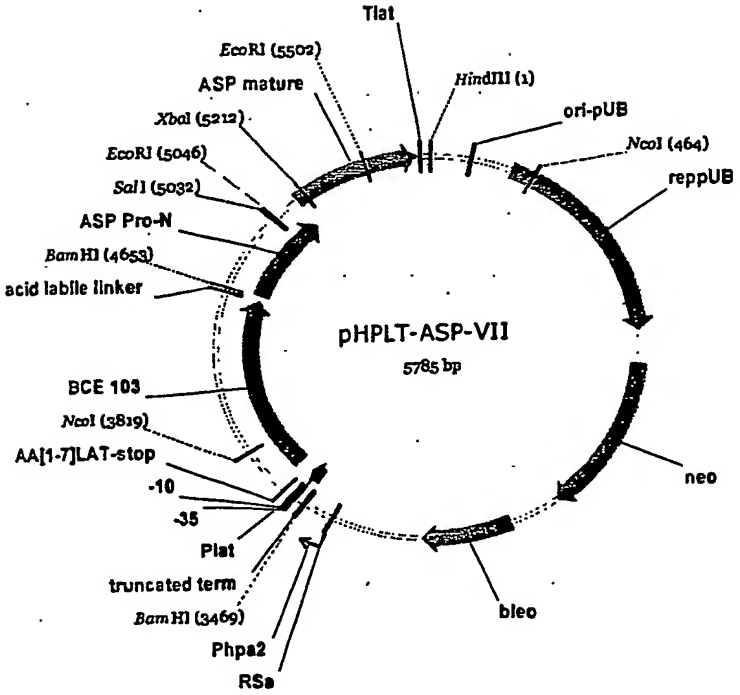


FIGURE 15

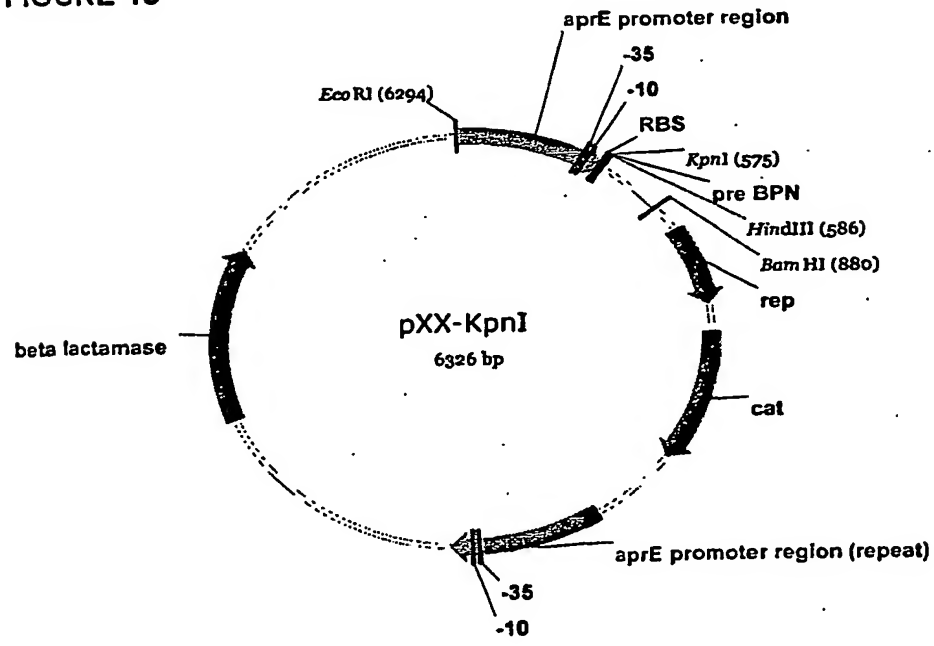


FIGURE 16

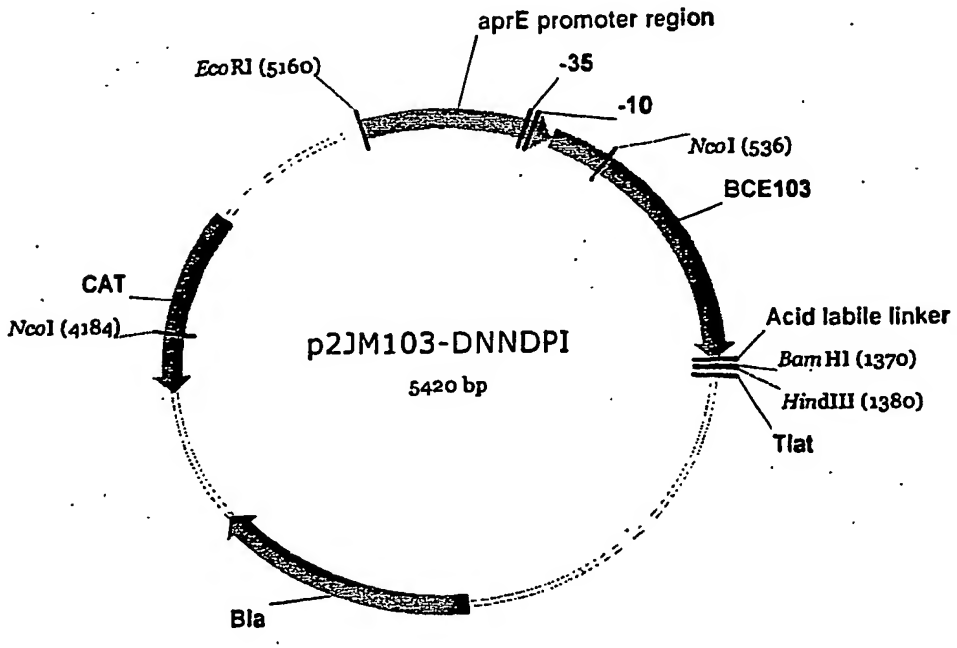

aprE promoter region
EcoRI (5160)
-35
-10
NcoI (536)
BCE103
CAT
NcoI (4184)
p2JM103-DNNDPI
5420 bp
Acid labile linker
BamHI (1370)
HindIII (1380)
Tlat
Bla

FIGURE 17

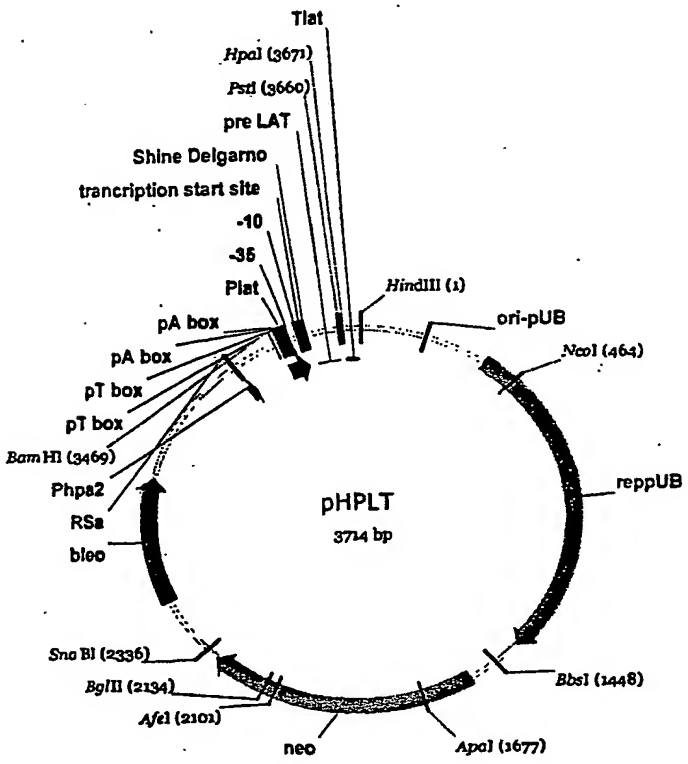
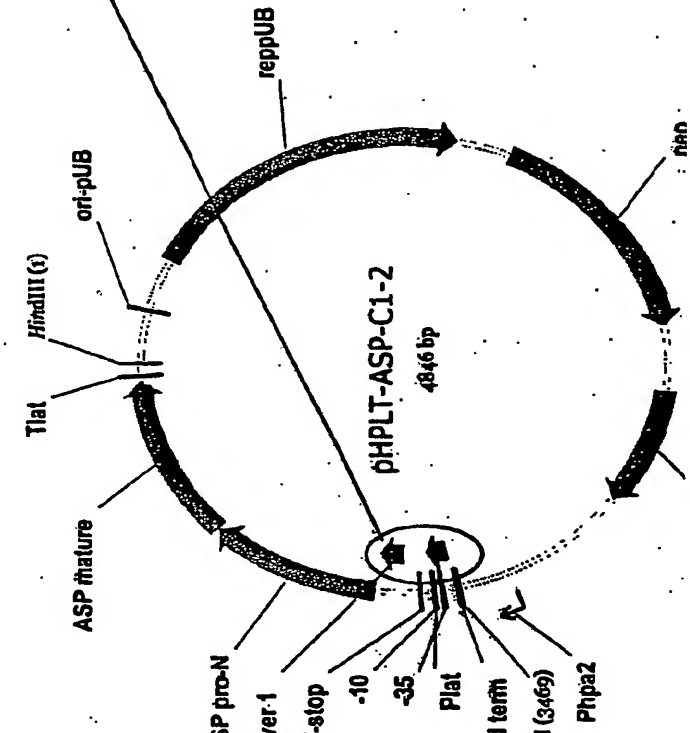

Tlat
HpaI (3671)
PstI (3660)
pre LAT
Shine Delgarno
trancription start site
-10
-35
Plat
HindIII (1)
ori-pUB
NcoI (464)
reppUB
pA box
pA box
pT box
pT box
BamHI (3469)
Phps2
RSa
bleo
pHPLT
3714 bp
SnaBI (2336)
BglII (2134)
AflI (2101)
neo
ApaI (1677)
BbsI (1448)

FIGURE 18

MXL-prom.....MKKRTVTRALAVATAAATLLAGGMAAQANEPAP..... (SEQ ID NO: 173)
(3) (25)

MXL-prom.....MKKPLGRTVTRALAVATAAATLLAGGMAAQANEPAP..... SEQ ID NO: 174)
(6) (25)

MXL-prom.....MKKPLGKIVASTALLISVAFSSSIASANEPAP..... SEQ ID NO: 175)
(27)



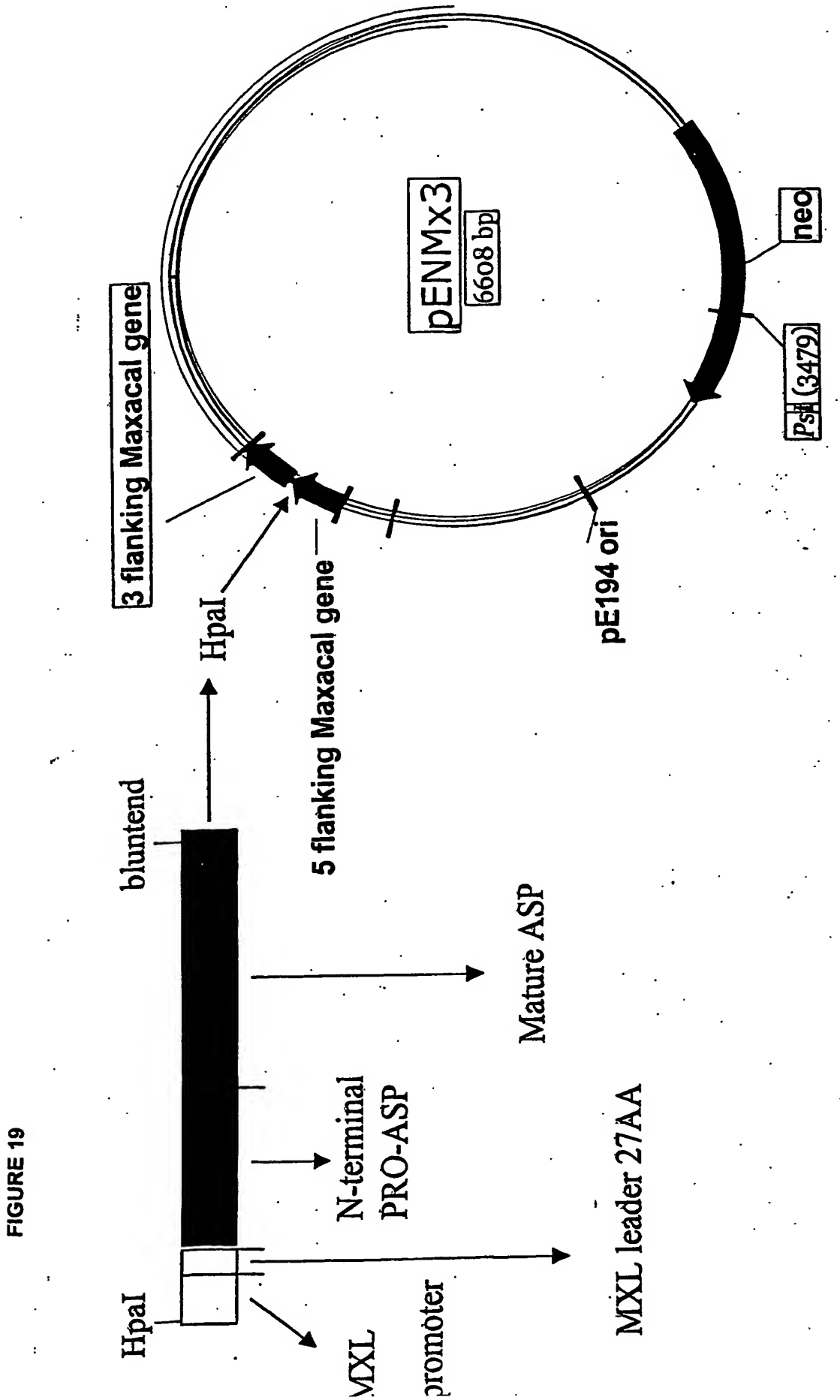

pENMx3
6608 bp
neo
PstI (3479)
pE194 ori
3 flanking Maxacal gene
HpaI
5 flanking Maxacal gene
bluntend
Mature ASP
N-terminal
PRO-ASP
MXL leader 27AA
HpaI
MXL
promoter

FIGURE 19

FIGURE 20

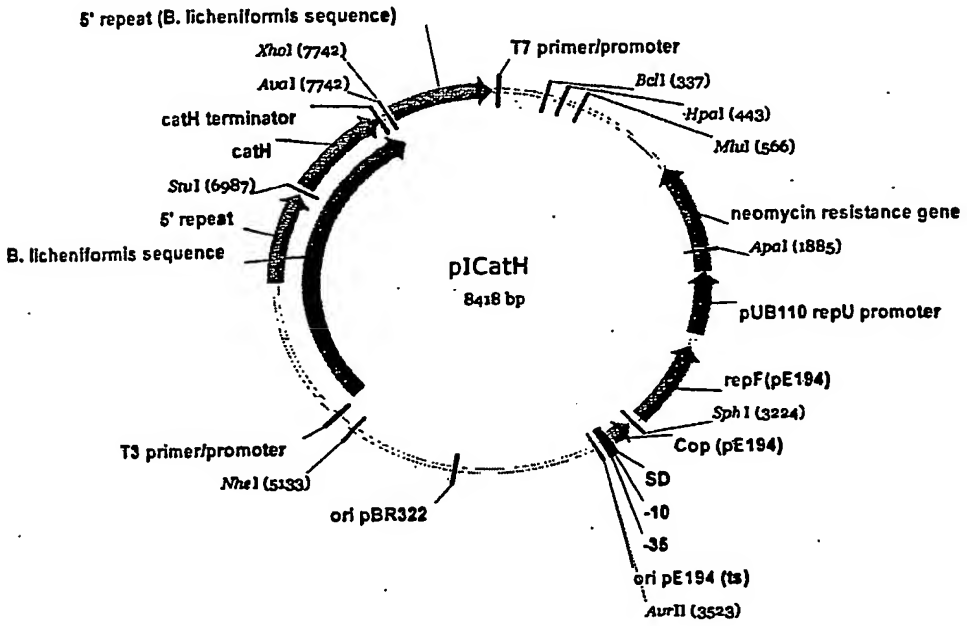

5' repeat (B. licheniformis sequence)
XhoI (7742)
AvaI (7742)
catH terminator
catH
StuI (6987)
5' repeat
B. licheniformis sequence
T7 primer/promoter
BclI (337)
HpaI (443)
MluI (566)
neomycin resistance gene
ApaI (1885)
pUB110 repU promoter
repF(pE194)
SphI (3224)
Cop (pE194)
SD
-10
-35
ori pE194 (ts)
AvrII (3523)
pICatH
8418 bp
T3 primer/promoter
NheI (5133)
ori pBR322

FIGURE 21

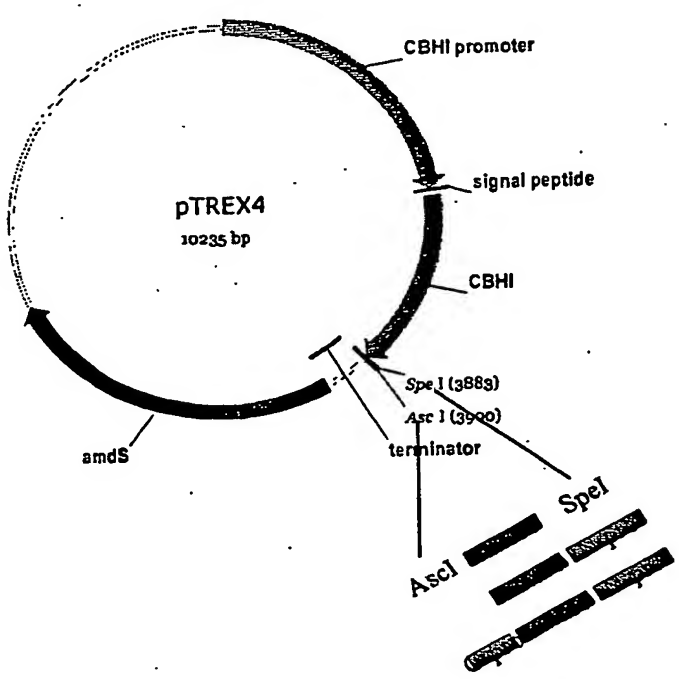

CBHI promoter
signal peptide
pTREX4
10235 bp
CBHI
Spe I (3883)
Asc I (3900)
terminator
amdS
SpeI
AscI

FIGURE 22

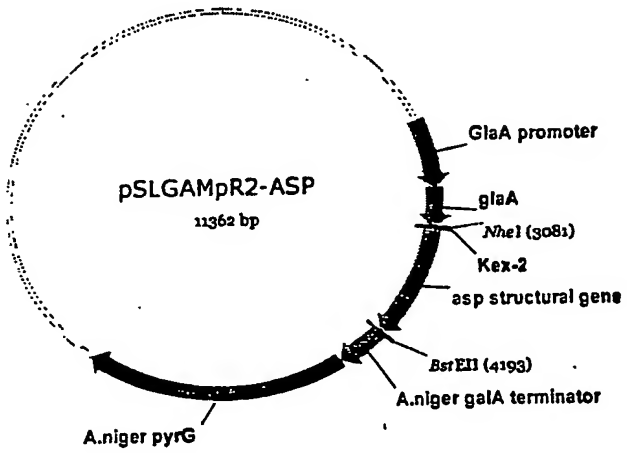


FIGURE 23

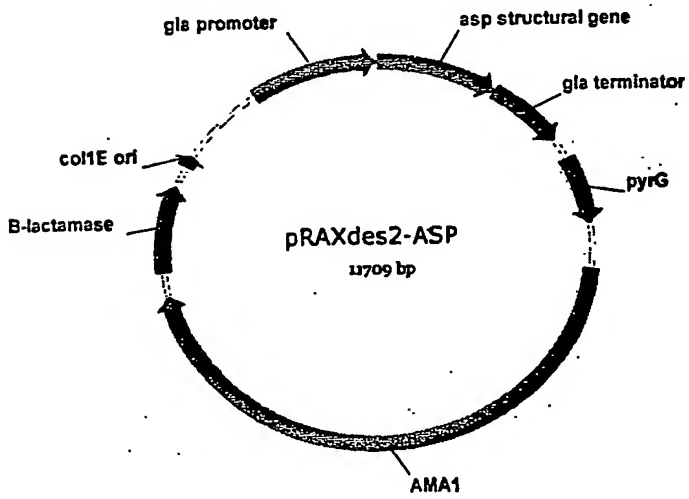


FIGURE 24

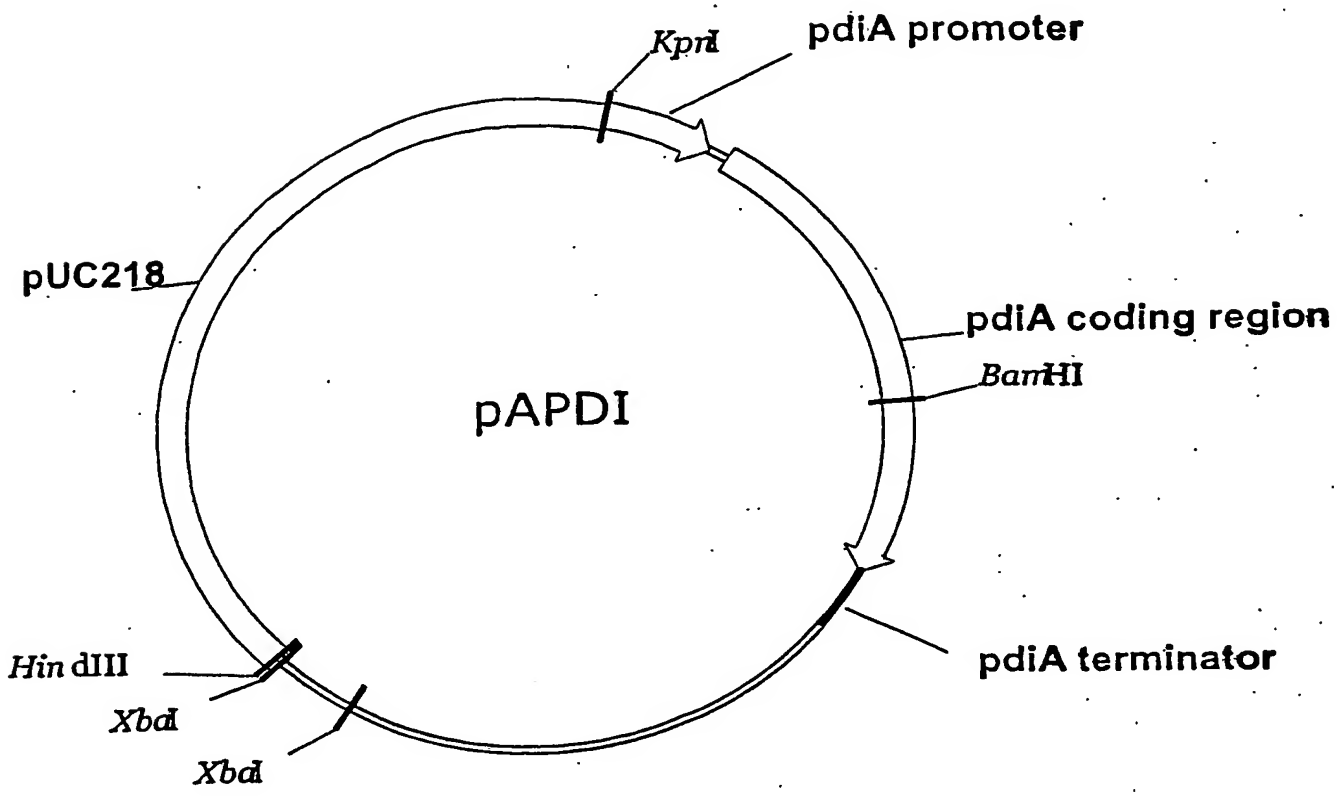
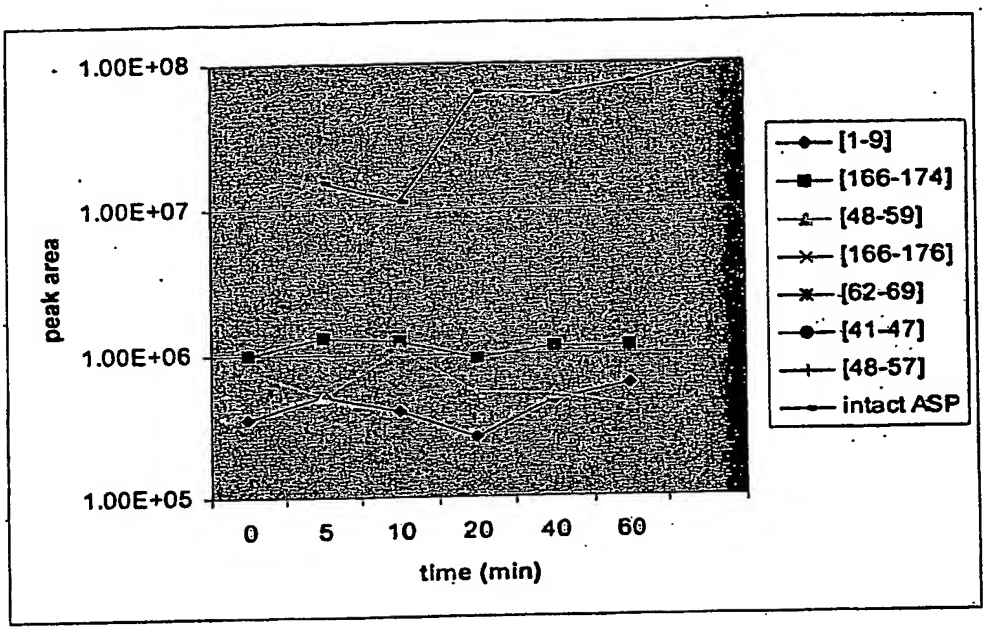

KpnI
pdiA promoter
pUC218
pdiA coding region
BamHI
pAPDI
HindIII
XbaI
XbaI
pdiA terminator

FIGURE 25

A.



B.

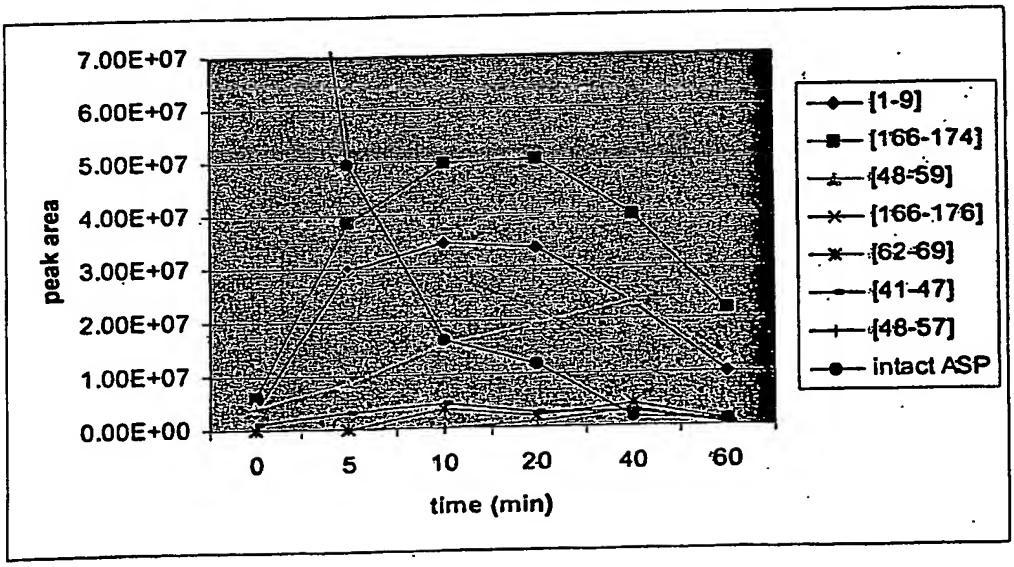


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FIGURE 26

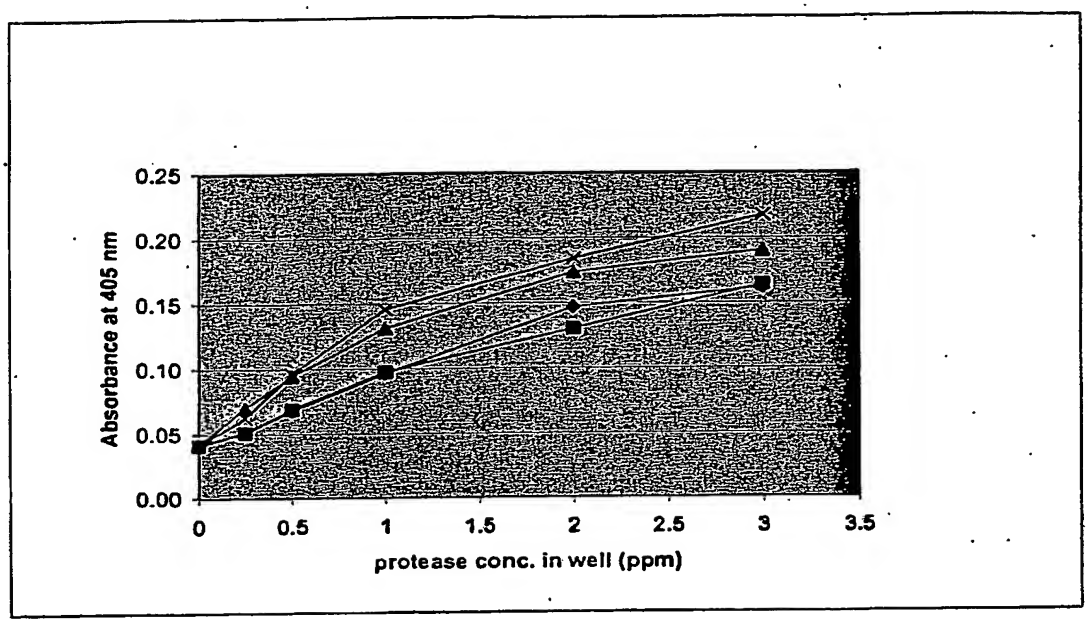

FIGURE 27

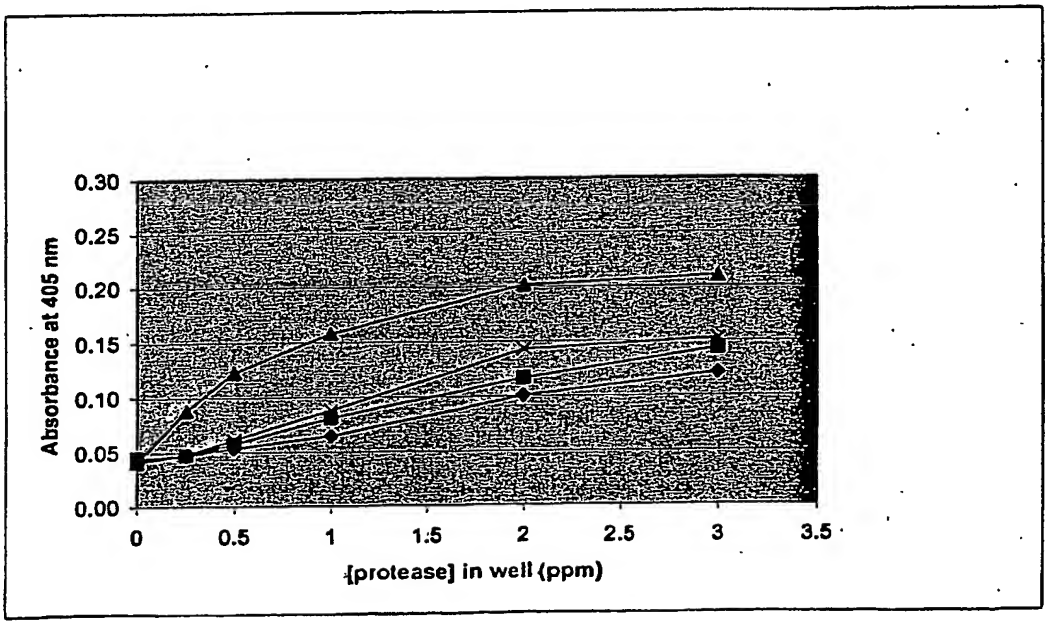

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FIGURE 28

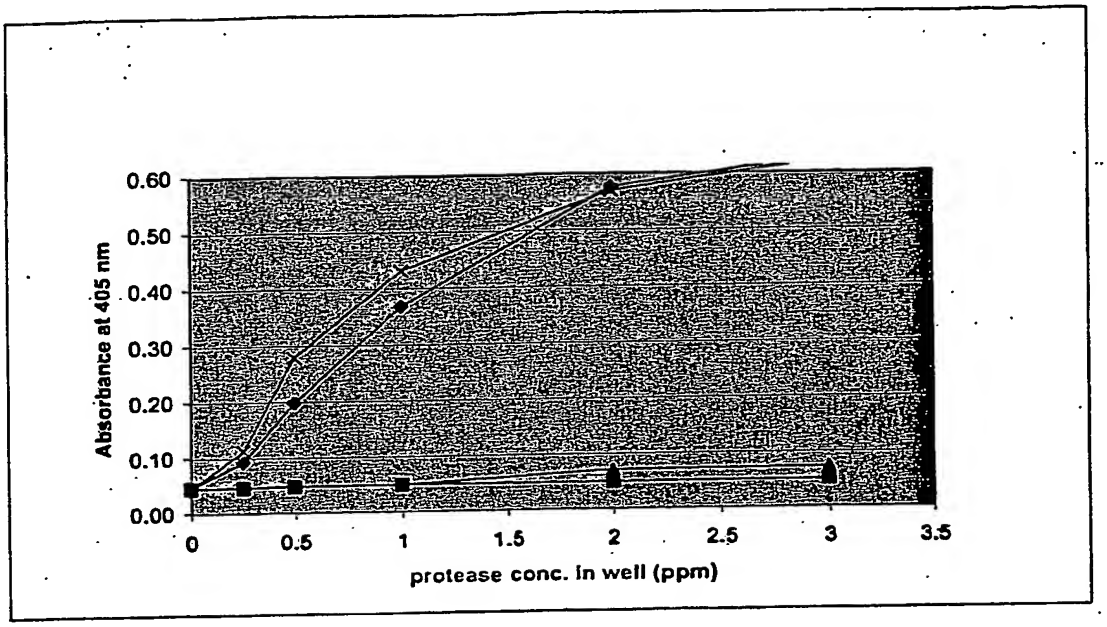

FIGURE 29

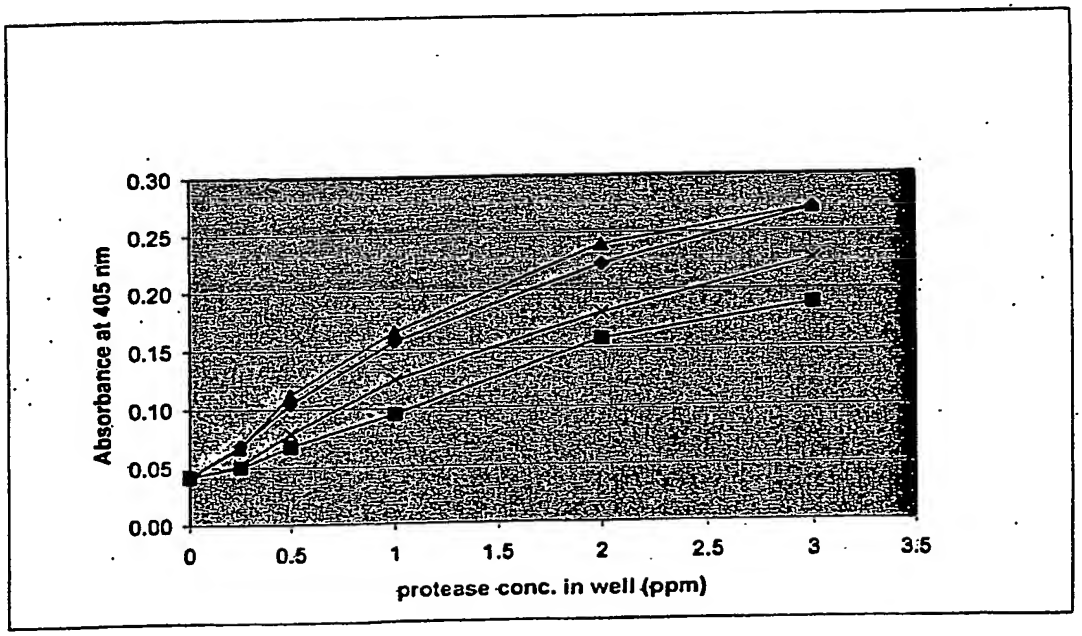

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FIGURE 30

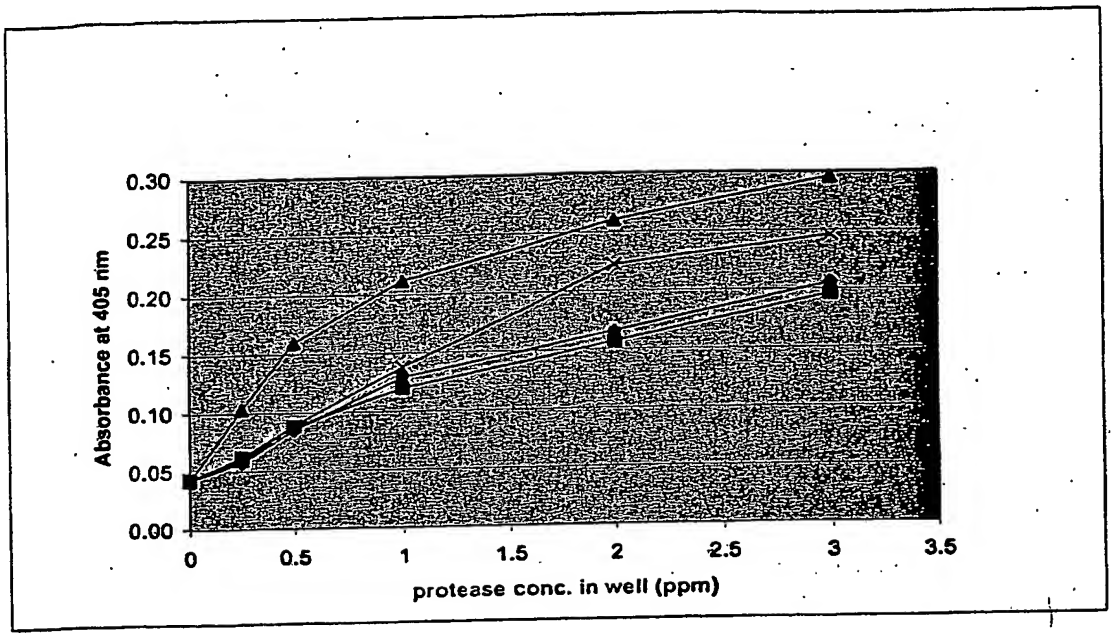

FIGURE 31

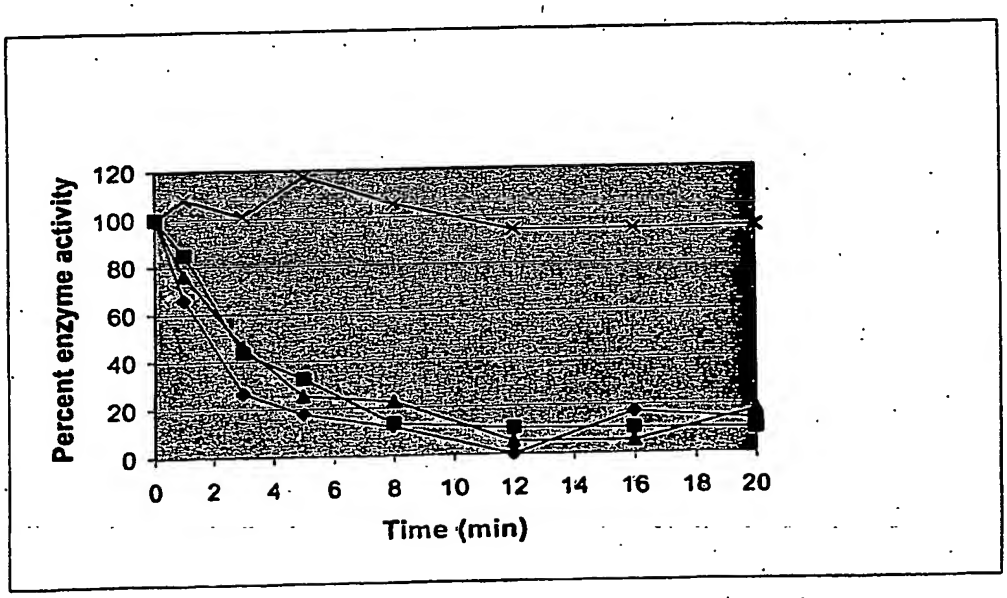

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FIGURE 32

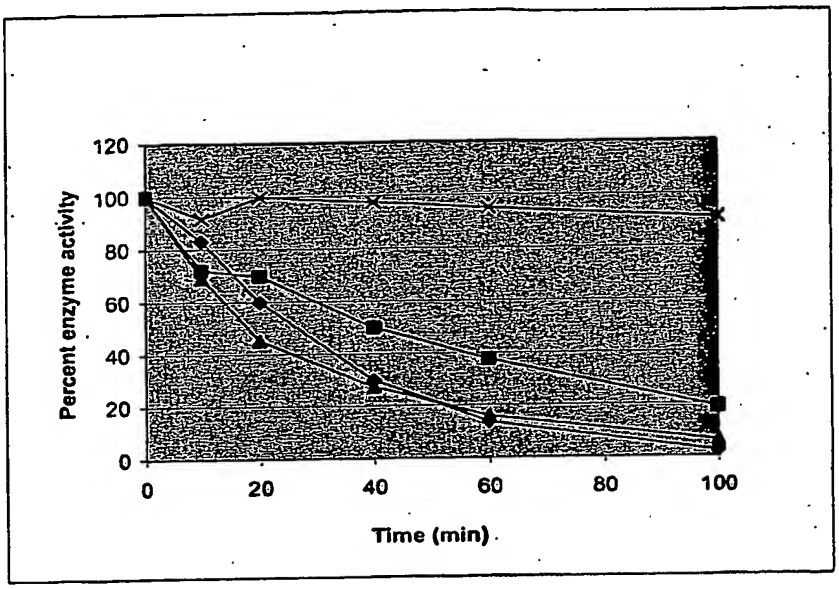

FIGURE 33

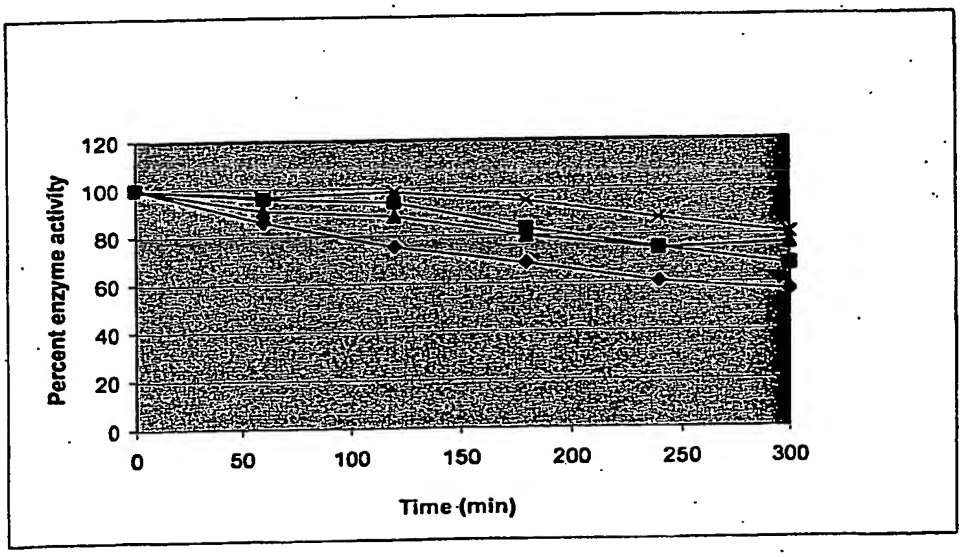

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FIGURE 34

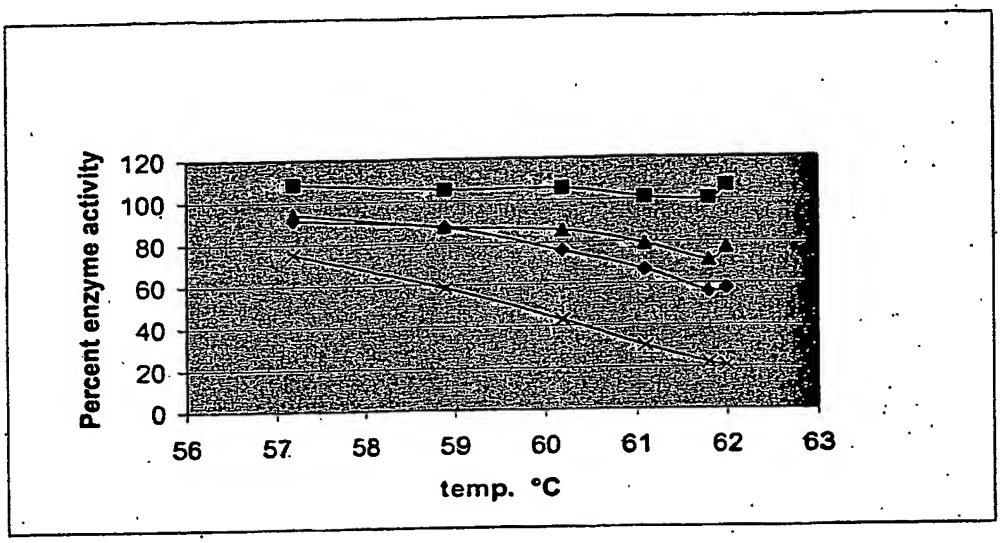

FIGURE 35

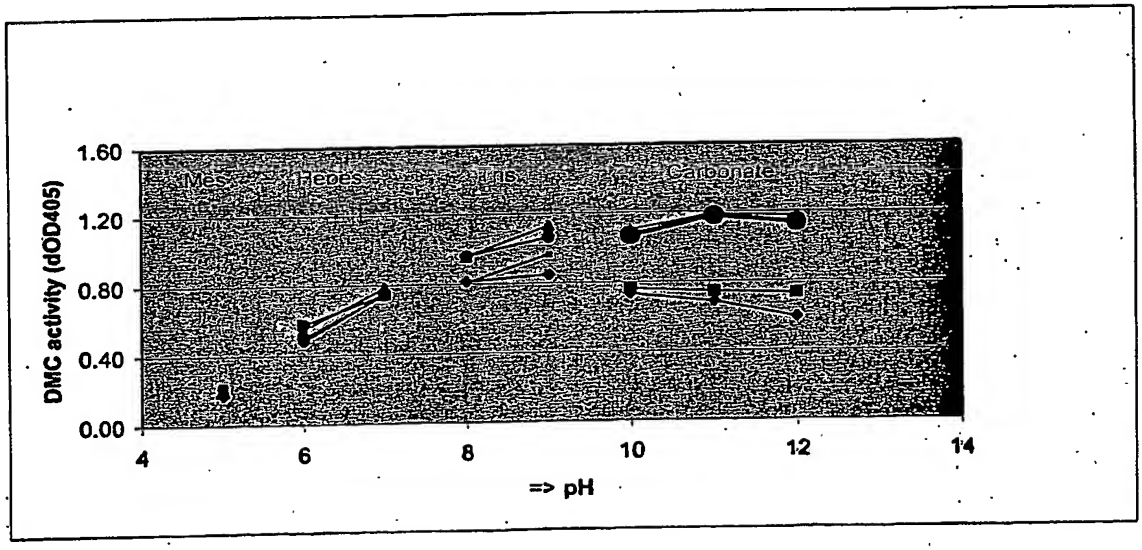

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FIGURE 36

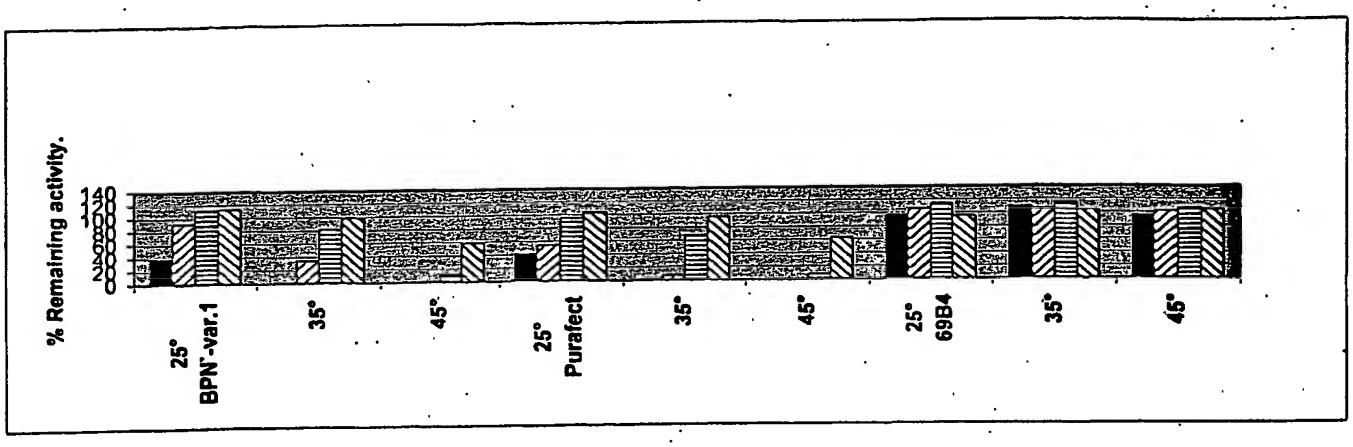

FIGURE 37

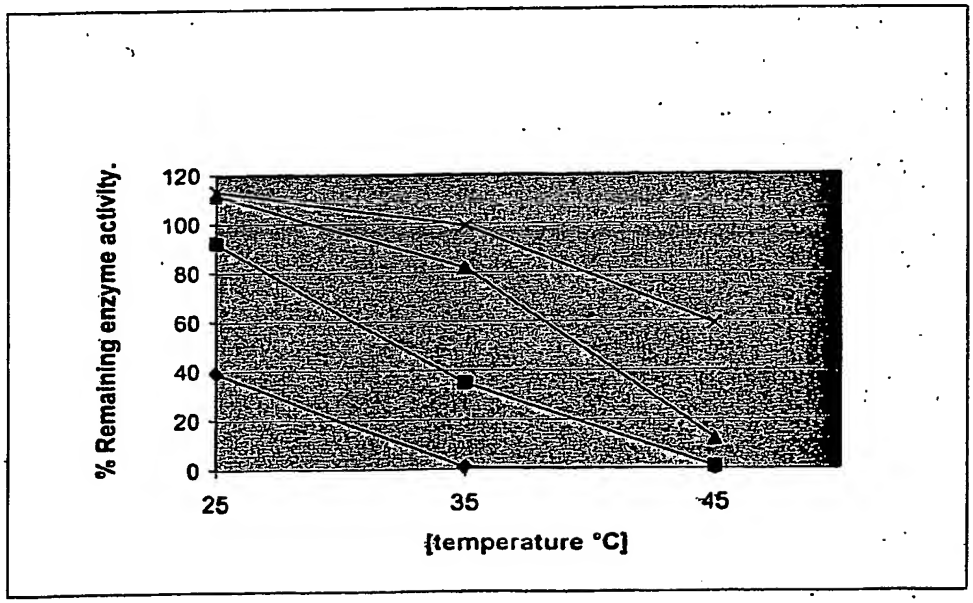

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FIGURE 38

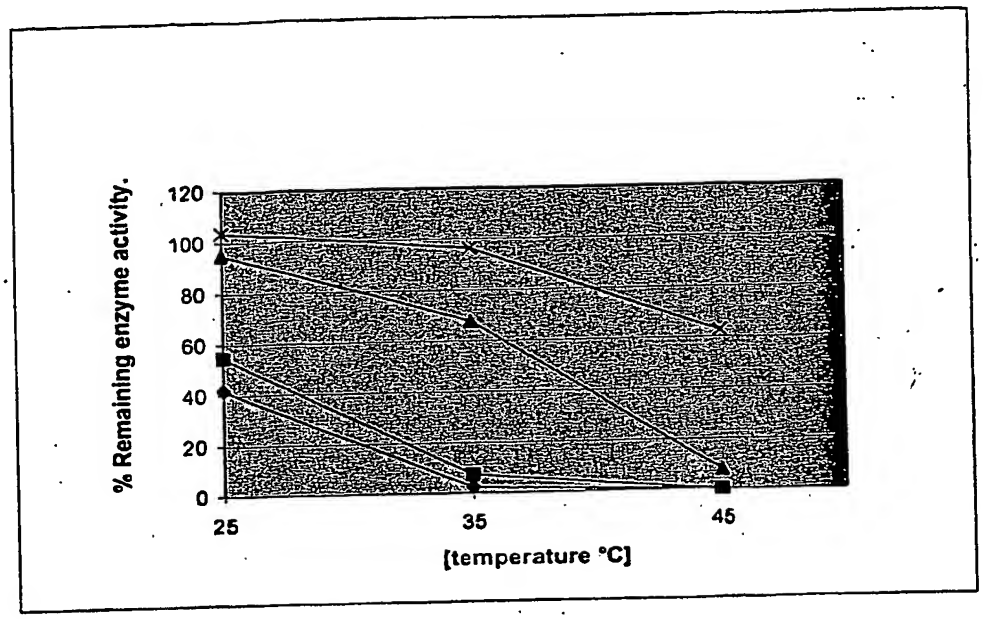
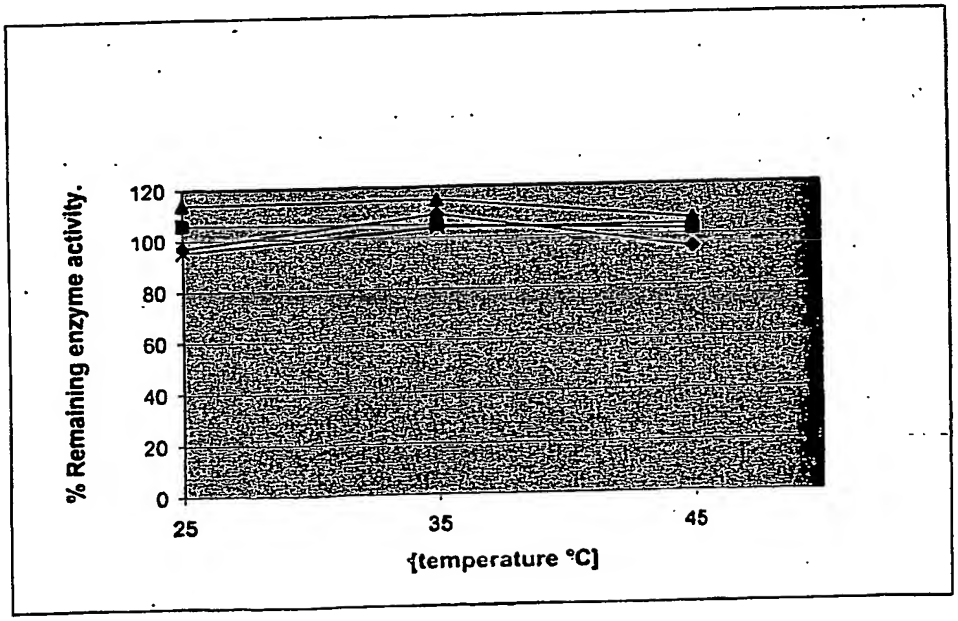


FIGURE 39



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